

Natural Philosophy Alliance
18th Annual Conference, 6-9 July 2011 <http://conf18.worldnpa.org/>
 at the University of Maryland, College Park, USA

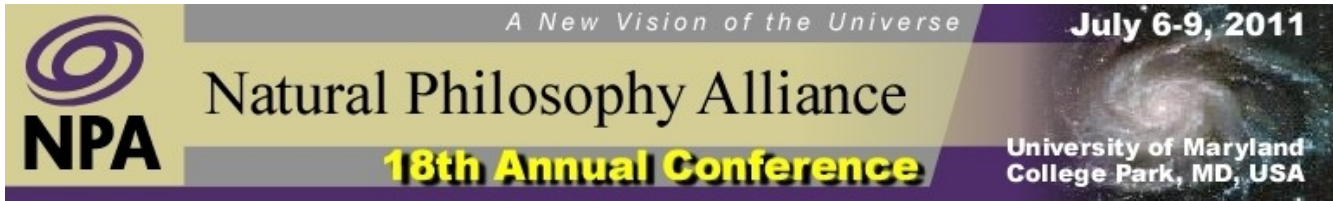


Photo of some of the 250+ attendees..

Here is a summary of my own personal impressions selected from presentations that I attended, and from several conversations over the course of the conference. This is far from complete! Some of the key themes that struck me (none of these is a sure thing, but they are fun, and have some basis):

- **Special Relativity (SP) is a turkey** - confirmation of my long-standing suspicion, also of my detailed review in 2010 of the historical experiments that “proved” SR (they do the opposite).
- **General Relativity (GR) is dead; Long live GR!** - Taken away SR, and GR is a beautiful mathematical framework, with many useless contortions that one can easily ignore/remove. Great example of a “Small-world universal function approximator” (see the last section).
- **Gravity doesn't exist** – as a separate force (30% to 80% probability in my current, initial view)
- **Electric Universe theory is on a roll!** - I have much more confidence in applying it my Astronomy-Earth modeling.
- **NPA** – is a welcome contrast to normal academic and government research environments...

Mr. Bill Howell

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This summary is dedicated to the 60th Wedding Anniversary of my mother and father,
Neil Crawford Howell and Irene Marjorie Howell

Modifications: 21Aug2011 – Added Rob Johnson's email and table of interferometer residuals.

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Part A – Introduction: Description of the NPA, EU, Bill Howell

The **Natural Philosophy Alliance** (NPA – www.npa.org) has been around for 10 years or so, and is a collection of ~2000 [practicing & retired] [scientists, engineers, and amateurs with & without science & engineering backgrounds] that discuss failures and challenges to [consensus, conventional] [scientific & engineering] laws, models, datasets and beliefs. Although the themes are not terribly restrictive, there is an emphasis on the foundations of physics - in particular gravity, relativity theory [refutation, challenges, extensions - so the whole range of thinking is represented within the NPA], and structural physics. A number of NPA members go to considerable lengths to set up experiments that reproduce, challenge, or extend knowledge in these areas, although some only work on conceptual/computer models. Many are leading "pariahs" in their fields, thorns in the side of the vast majority of scientists who have great trouble recognizing and understanding [fundamental through advanced] flaws in their "Consensus Scientific [Fashions, Cults, Religions], and who are quick to attack critics. Unfortunately this is commonly on an ad-hominem basis (see Part C for related comments). Many notable NPA members have not been properly credited for their accomplishments, the fame instead going to other scientists better positioned within one "politically-correct" ruling clique of scientists or another.

The **Electric Universe** (EU – www.thunderbolts.info) group looks at electro-magnetic processes as a [complement, alternative] to gravity-only thinking that is actually the nature of most conventional astronomy. EU data, models and thinking started in the late 1800's, and has continued at a low level since, perhaps because of the difficulty of getting data in the early decades prior to radio telescopes, but more importantly because of the "high-jacking" of physics by Special Relativity and General Relativity. It is unlikely that the established scientists could ever change their beliefs based on data or analysis, but there is a good chance that [conventional, consensus] physics of the last 100 years will be torn to shreds by bright young scientists [pros and amateurs alike] collaborating over the web outside of the stifling academic and government research institutions. The conventional scientists will then follow herd-like into the new paradigm, with not much more basis for their new beliefs than their old.

Some of my (**Bill Howell** – www.BillHowell.ca) projects involve astronomical – earth sciences modeling (Ephemeris of solar system, solar activity, climate) with a potential future interest in modeling of (health (disease, heart attack), volcanism, earthquakes, financial/stock markets, economies). These modeling exercises are more related to the Electric Universe theme than the NPA theme, but here is huge overlap there. For example, last summer/fall I strongly rejected the need to employ General Relativity based on the apparent absence of any solid proof that Special Relativity Theory (SRT) is applicable to ANY dataset, including all of the famous data sets that supposedly "proved" it! As seen from my notes, many NPA members feel the same way and not a few feel the opposite. NPA discussions on the nature of gravity are also very useful to me, but I didn't see many of those presentations. In fact, rather than attend EU sessions (I am fairly familiar with this themes here), I mostly attended the Special Relativity Theory (SRT) and Structural Physics sessions. In part ?C? Below, I have provided comments on some of my thinking related to the practice of Science, centered around the behaviour and thinking of scientists, as well as the limited/ constrained context for which Scientific thinking applies, and where other forms of thinking are necessary.

Actions for Howell arising from the NPA conference (maybe)

Although its hard to say if and when I might find the time, here are some actions that I would like to pursue:

1. Detailed review of Lucas' papers “[Electrodynamic origin of gravitational forces](#)” and “[The universal electrodynamic force](#)” - (As per comments attached to the paper comments below...) I'm not comfortable with some of the developments, notably the treatment of integrands, statements that may have support in previous papers but weren't specifically supported in the current paper (eg $r_{\hat{}}$ confusxion – one too many r's in gravitational law compared to Newton, Bode's law, quantized redshift, decay of gravity, etc). Still, the concept and math is worth a look, as is earlier worked by Andre Assis in 1992 & 1995 that is referenced by the author.
2. Construction of a spreadsheet for interferometry experiments based on Doug Marett's spreadsheet, corrected for Steven Bryant's wavelength-based analysis. Will this yield non-zero residuals as Bryant has found to high accuracy?
3. Work through the Ives-Stilwell 1937-38 Atomic Clock experiment to see how they might have made a mistake, as inferred by Steven Bryant.
4. Start using recent satellite data as noted by Wal Thornhill, plus perhaps dimensional analysis as a basis for Solar system – Earth process modeling. This would require the modification of Ephemeris programs!!

endsection

Part B - Selected Themes from NPA 2011, at the University of Maryland

The selected themes in this section are certainly NOT exhaustive lists!! I only go to see between 40 to 60% of all presentations, as there were in general two simultaneous tracks, but I also lost one full morning to get my car back from tow-truck impoundment, and conversations / fatigue ate up some more time. Often I have cited only one paper from the conference, even though several were pertinent. My apologies to the missing authors, as this is strictly due to a rush to get down these notes.

The reference for the conference proceedings is:

Cynthia Witney, editor, Don Briddle, Greg Colk, David de Hilster – assembly of 2011 Proceedings “Proceedings of the Natural Philosophy Alliance” 18th Annual conference of the NPA, 06-09 July 2011 at the University of Maryland, College Park, USA

For individual papers, I only cite the authors and titles.

1. Special Relativity, General Relativity

1a. *Experiments only prove that Special Relativity is incorrect, or are null!*



Steven Bryant, Berkeley CA www.RelativityChallenge.com “The twin paradox: why it is required by relativity” pp96-98

“... When wavelength-based experiments, such as Michelson-Morley or Ives-Stillwell are evaluated using wavelength based models, they yield quantitatively better results than when evaluated using equations associated with length based models. ...”

“... Wavelength based models provide a foundation for alternative theories (eg Modern Classical Mechanics) that distinguishes between wavelength and length, where the appropriate use of equations yield the best mathematical results. ...”

I really loved Bryant's presentation! It very much reminded me of the meticulous, consistent analysis of Ives over his experiments and analysis of the results of others. Ives continually rooted out inconsistent/ incoherent analysis, and yet Bryant seems to have caught inconsistencies even with Ives' work!! Moreover, it seems clear to me that Bryant's central point is powerful – use the right analytical approach for the tests being used. Clearly, even the bests minds screw up with seemingly simple transformations. This is one of the 5 best papers of the conference that I saw.

Bryant's results show that there is a 27-30 km/s result for the Michelson-Morley experiment (MMX), in line with original expectations, and in my interpretation a clear rejection of SR!

Bryant's paper might just be one of the most important that I've ever seen related to SR, and that is because it may hold the key to illuminating ongoing catastrophic failures of [rational, logical, and

scientific] thinking by essentially all scientists for over 100 years, including the so-called “top scientists and institutions”. As such, it may add to psychology studies in that area. Dan Levine's work in that area comes to mind.



Doug Marett, Msc Toronto www.ConspiracyOfLight.com “The continuing relevance of Lorentz ether theory in the age of relativity” pp397-400

Marett is far more competent, fair and balanced in his analysis than I could ever be, and concludes after his own testwork and a survey of 20 experiments from 1725 to 2005 that :

“... the optical evidence to date, as has been shown herein, continues to support the alternative hypothesis that the ether of Lorentz does exist, and this is particularly desirable for those who seek a more rational and consistent description of the physical world. ...”

Marett provides a nice summary table of the experiments. Significantly, the Sagnac and other experiments that seemingly disprove Special Relativity (SR) are not listed. I don't remember any specific comments by Marett on this. Doug and his brother (?name?) demonstrated two of their refraction experiments on the Saturday morning set aside for demos. It was very impressive!



Edward H. Dowdye Jr., Maryland www.extinctionshift.com “Gravitational lensing in empty vacuum space does not take place” pp176-181

From his abstract:

“... Findings show that the rays of light are lensed primarily in the plasma rim of the sun and hardly in the vacuum space just slightly above the rim. ...”

“... An application of Gauss's law clearly shows that, if the light bending rule of General Relativity were valid, then a light bending effect due to the gravitational field of the sun should be easily detectable with current technical means in Astrophysics at analytical Gaussian spherical surfaces of several solar radii. ...”

“... Assuming the validity of the light bending rule of General Relativity, the sky should be filled with images of Einstein rings. ...”

“... A lack of evidence of gravitational lensing is clearly revealed in the time resolved images of rapidly moving stellar objects orbiting Saggitarius A. ...”*

The moving image of that last point is extremely interesting!

Dowdye is an interesting and entertaining presenter, and thorough, solid and convincing in his work. He points out that the apparent bending of light by the sun, ?purported by Eddington's 1919 expedition?, is a key theme that made Einstein, and General Relativity, both famous and widely

accepted. (Note that other references show this effect to have been determined accurately long before Einstein's time). But here we see that a common diffraction mechanism actually explains data, whereas GR fails!

We need people like Dowdye to inspire junior & high school students!! University students too, but it may be too late by then. Videos and website learning are probably the way to scale this up...

- [Edward H. Dowdye Jr., Maryland www.extinctionshift.com](http://www.extinctionshift.com) “The Shapiro delay: A frequency-dependent transit-time effect” pp182-186

This paper by Dowdye was also very good, but as it deals with a specific effect that has erroneously been ascribed to GR, rather than refuting GR itself, I have not put in details here. Again, very interesting and convincing.



[Dan Wagner Wynnewood PA](#) “New direct test proposed for Einstein's velocity addition formula” pp681-684

Wagner is proposing a modern adaptation of the 1851 experiment by H. Fizeau, based on A. Fresnel's 1818 theory of light being “dragged by a moving transparent medium through which it travels”. His approach will attempt to use the group velocity of light” $(c/n - v/n^2 - G)$, which is $\sim 3e6$ m/s slower than “phase velocity” $(c/n - v/n^2)$ in silica. He is looking for both scientific and funding support to set up 1 km loops of glass fibre / air hollow fibre loops.

Not that Wagner's historical reference raises the issue that SR was disproved 50+ years BEFORE the SR concept was proposed (first by Lorentz/ Poincare, then Einstein), and has been disprove by every experiment since! Here I am taking a hard interpretation that the positive 5-12 km/s velocity residuals, instead of the 30 km/s expected, were real.



Robert J. Johnson, Oxford UK “Evidence for the anisotropy of the speed of light” pp293-298

As per his abstract:

“... The Beckmann model is considered in relation to both the Electric Universe perspective of a charged Earth and to the actual non-null results of the various Michelson-Morley-type experiments. It is demonstrated that the Beckmann model is consistent with both concepts. Furthermore, application of the Beckmann model to an orbiting charged Earth offers support to the interpretation of non-null Michelson-Morley results as evidence not of an “ether wind” but rather of an electromagnetically-induced directionally-dependent anisotropy of the speed of light. This hypothesis offers a new direction for research and possible re-analysis of existing data. ...”

Johnson also explains the context of Cosmic Microwave Background Radiation (CMBR) and helio-magnetosphere frames of reference. Unfortunately, an excellent table of MMX “residuals” that appeared in his presentation is not provided in the paper.

----- Original Message -----

Subject: NPA18 feedback
Date: Sat, 20 Aug 2011 11:55:35 +0100
From: Bob Johnson
To: Bill Howell <Bill@billhowell.ca>

Hi Bill,

I've just been reading your summary of the NPA18 conference and saw your ref to my talk. Thanks for the mention!

Here's (attached) the table from my talk with the summary of the MM-type results as discussed in my paper. (Full paper available via <http://www.worldsci.org/php/index.php?tab0=Abstracts&tab1=Display&id=6255>)

One thing I took away from the conference was that I'd apparently given the impression that I thought that 100% of each of the non-null results in each experiment could be explained by the anisotropy of the speed of light. I didn't mean to go that far! Whilst it may be true, my position is that I think it's more likely that the non-null results conceal a real anisotropy along with some experimental error.

OTOH, it's very hard to explain the years of consistently non-null Dayton Miller results as anything other than a real effect, so who knows how much is actually error. Hence the need for more experiments under lab conditions to test whether it's possible in practice to affect 'c' by changing the E/M parameters.

Regards, Bob

Figure 7: MM-Type Experiments - Results
Earth's velocity relative to the "ether"

	Reported, km/s	Actual km/s
MM 1887	5	8.8
Miller 1904	7.5	7.5
Miller 1925	9	9
Miller 1933	9 - 11	9 - 11
Illingworth	<1	2.5 - 6.7
Michelson-P-P	"<1/50" x 300	= 6
Joos	1.5	? - large values rejected
Jaseja	1	up to 12.8



Tom Bethell, Journalist/ author ""Questioning Einstein: Is relativity necessary?"
Verbal only – no paper in the proceedings

Bethell did not provide a paper for the conference proceedings, but his presentation (no slides) was based on his excellent book, which I read in detail in 2010:

Tom Bethell 2009 "Questioning Einstein: Is relativity necessary?" Vales Lake Publishing, Pueblo West CO USA 209pp

Pietr Beckmann's rotating gravitational ether framework was the inspiration for his book, in which he has identified many of the failures on conventional scientific analysis of gravity, SR & GR (especially the interferometer experiments), concluding that SR & GR are NOT necessary – that classical thinking can achieve the same results much faster, more reliably, and much more simply. (I may be simplifying too much! - more detail could be provided later). As in his book, Bethell pointed out how hard it was to get any statement on relativity from physics departments in academia – even the experts are not seemingly comfortable, and defer to "the" specialists! Sounds like a cult...

Bethell's work is yet another great example of how a bright, hard-working amateur can out-think the experts in their own field of expertise, even without the math.



David de Hilster California www.dehilster.com “The neutrino: Doomed from inception” pp148-151

As per his abstract:

“... *If special relativity is wrong, then it's bastard son the neutrino cannot exist. ...*”

De Hilster's presentation was forceful and to the point, but the context is beyond my awareness. So it's good to get warnings like this, which match warnings from other areas.

This does remind me of an interesting event in the past for me, re-counted here as a bit of a riddle-poetry (OK, I'm lousy at poetic stories):

“... *In ?2005? I invited my friend to come to Sudbury, Canada in the month of May to see the snow. (At this, Canadian friends think I'm nuts, because May isn't the best month to see snow in Canada!). To get to the snow, we went 6,400 feet straight down into bedrock, then we walked 1.5 kilometers into the formation. By getting to the snow, we were better able to see the sun. (of course, verbally, friends think of “snow”, but I deceptively mean SNO – Sudbury Neutrino Observatory, which I explain to them). ...*”

My friend, the late M.V. Bodnarescu, was a fascinating and very impressive man, roughly 72-75 years old at the time that I knew him. Born Romanian, but a graduate of Berlin University and German citizen for his adult life, his mind was exceptionally keen – quite beyond my own limited capabilities. But he was always willing to go deep into the mathematics, and to entertain interesting questions and challenges. Even close to the end of his life, he continued to attend conferences around the world, especially related to Energy, which was at the heart of his career. But I met him at the International Joint Conferences on Neural Networks (IJCNN: 2001 Cuomo, Italy; 2006 Vancouver, Canada, and one other). I suspect he was looking to see if I had something profound to say after looking at the neutrino issue, but it wasn't in me.

Thanks for the visit, and attendance at the SNO workshop, goes to Art McDonal at Queen's University in Kingston Ontario, plus several other individuals whose names I don't have on hand.

Neutrino experiments in deep mines (?Nevada, Kamiokande in Japan, Sudbury that I know of) had initially been disquieting for the Standard Model of the Sun, because only 2/3 the expected number were measured. The Sudbury neutrino lab was designed to capture ?2 (tau, electron) of the 3 (mu, tau, electron) neutrino types. The results were taken as evidence that the Standard Model of the Sun was confirmed, assuming that ?tau? Neutrinos converted to ?electron? Neutrinos on the way from the Sun to the Earth.

However, some consider this explanation to be a bit of a fudge, and the Standard Model of the Sun to still be very much in question. One particularly interesting perspective is that of Oliver Manual, and his theory of an “Iron Core Sun”.

- Other comments during the conference



Greg Volk – During the Friday night awards banquet, Volk commented that the GPS system is based on the Sagnac effect (same guy whose experiment in ? 1911-1913? disproved SR), and not on SR as commonly claimed. I believe he also alluded to a possible altitude effect on the atomic clocks – something I've heard/seen several times over the last year.

- **Bill Howell – random, partially-informed comments:**

From my own perspective, I have never been comfortable with Special Relativity, but had assumed that if essentially all scientists believed it, then the data, analysis and modeling must substantiate it. However, with time I have found that assumption to be a horribly bad one, so in the summer and fall of 2010, when I looked at the original papers on experiments that supposedly “proved” SR, it was not surprising to me to see that this was crap, and still is crap (in my mind, not so with experts). Up until the Ives-Stillwell “Atomic Clock Experiment” of 1937-38 (which is as far as I got at the time), several different experiments disproved SR (Sagnac, Michelson-Gale, ...). In stating this, I am ignoring the SR clan's dismissal that the experiments in question violated an inertial frame of reference (they conveniently ignored that argument for experiments they held up to support SR). Furthermore, experiments like the Michelson-Morley test DID have a positive response, disproving SR unless one assumes that they all exhibit zero results of slight bias. The latter may be a good assumption as at least one experimentalist stated during the conference, but a “null” (zero) response is still far from a proof of SR – it is merely the refutation of specific assumptions about a material ether, its velocity, and the nature and behaviour of light!

So while SR & GR are highly creative, and beautiful mathematics, it is likely and unfortunate that they have misled physics and other sciences for ~100 years.

I did a limited amount of work re-deriving General Relativity results from (?paper Obama & name?), but did not go to completion, as I concluded that SR and GR are simply NOT what I want to use for solar system modeling. Furthermore, while I maintain SR & GR in a conceptual environment of “multiple conflicting hypothesis”, and because of their historical importance, frankly they are more like dead ducks in my mind. Over 100 years of corrupted physics...

Actions – here are some possible ideas (not likely I'll have time to chase many)

- Develop a modified spreadsheet for Doug Marett based on Steven Bryant's wavelength-based analysis
- Help Dan Wagner find funding? (I don't have expertise/ time, nor \$!) Maybe if I run into a rich guy with money to burn....

1b. Planck length & mass through to scale of Universe



Henrik Vilhelm Broberg, France “Gravitation, matter, and the expanding universe” pp86-95

While section 1b contains challenges to, or refutations of, Special Relativity (SR), this paper is based on SR-GR:

“... The field of gravitation emerges in a chain of Lorentz transformations, while linking the micro-cosmos of the particles to the macro cosmos of the Universe. ...”

While I sat down and discussed this paper with Broberg over lunch, it will take far more work for me to be comfortable with the details. Still, this is a nice piece of work, and Broberg's sincerity and enthusiasm is infectious. The “cleanliness” of the relations (eg Planck mass and length, electron mass, Mercury orbit precession, Schwarzschild radius, expansion of the Universe) is haunting...

2. Electric Universe (EU)

I did not spend much time in the EU presentations. That is because I am still reading heavily in this area and I'm reasonably familiar with a lot of it, and I needed to look at the things I don't see so often from the NP side!

Certainly, David Talbot's presentation “Electric Events on Mars was well done. And as reported above, Bob Johnson's presentation suggests that EU theory provides a good context for ether, following Beckmann's suggestion that gravity fields have that role.

However, I'll restrict my comments to only two of the papers that really stood out for me, as someone already familiar with EU theory. I've pre-listed several important sub-topics that were covered by each paper. (I'm running out of time to write this summary...)

2a. *An Electric Sun primer*

2b. *Galactic Ray Forecasting*

2c. *Solar System's main Birkeland Current scale & location*



Wallace W. Thornhill, Australia www.holoscience.com “Stars in an Electric Universe” (2011 John Chappell Memorial Paper) pp630-637

From his abstract:

“... The Nobel prize-winning plasma physicist, Hannes Alfvén, was a pioneer in this new plasma cosmology. Two recent discoveries stand out in relation to Alfvén's predictions so that ultimately he cannot be ignored. The first concerns the birth of stars and the second the electric circuit of the Sun. The Electric Universe extends plasma cosmology and views all stars as an electric discharge phenomenon. ...”

From several of his co-authored books, and his presentations over the last year, I've known Thornhill as a great thinker, cautious and humble, and with class and calmness, and a great presenter. This presentation fit all of that to a tee, and is certainly one of the top 5 papers that I saw at the conference (to me).

In this presentation, the main theme is to replace the hydrogen fusion model of the sun (the “Standard Model”), with the “Electric Universe” model. As Thornhill has stated previously, now is not the time to fall into mathematical traps, observations and “Qualitative Physics” should be applied as a means of building understanding first. Quite a refreshing approach!

As I've often found with Thornhill's past books and presentations, his presentation was full of juicy information.

- His description of recent satellite observations that suggest the size and positioning of one of our solar system's “Birkeland currents” (possibly the primary one?), is the first potential starting point that I've seen for semi-quantitative modeling of the EU theory for our solar system, if one is rash enough to take a simplistic dimensional-analysis approach (I am).
- **While his books (or David Scott's – I forget now) did mention that cosmic rays could originate either with the sun or the termination shock zone of the solar wind – interstellar space (I forget which), this presentation reminded me of that. This is important for my Climate modeling, as there seems to be a puzzling 1 to 4 year lag of galactic rays measured at Earth stations following big changes in solar activity. The EU concept of cosmic rays being possibly generated in the shock zone would certainly address this!!**

Note that Oliver Manuel has proposed (?1980's or 2000's?) an “Iron Core” model of the sun, based on supernova remnants (neutron star) and neutron repulsion as the main driving force (not part of this conference). While quite different from the standard H2 fusion model or the Electric Sun, I don't see the need as treating these models as being mutually exclusive. Scientists who do that for the Standard Model are, in my opinion, not very good at keeping their minds open, but that is entirely expected...

2d. *Gravity as an emergent property of Electrical Universe Theory*

2e. *Bode's Law for planetary orbital radii*



Charles E. Lucas Jr., Maryland www.commonssencescience.org “Electrodynamic origin of gravitational forces” pp375-386

From his abstract (here I include all the abstract, unlike my extractions for other papers, given the huge coverage and implications of the paper):

“... From the derived universal classical electrodynamic contact force law for finite-size elastic particles the force of gravity is identified as a statistical residual force of the fourth order term in v/c due to vibration of neutral electric dipoles consisting primarily of atomic electrons and nuclear protons plus polarized vibrating neutrons in the nucleus. The gravitational force is calculated and found to be a relativistic version of the customary radial term of Newton's Universal Law of Gravitation plus a new non-radial term. From the radial term the gravitational mass is defined in terms of electrodynamic parameters. The non-radial term gives rise to an $(\mathbf{R} \cdot \mathbf{V})\mathbf{R} \times (\mathbf{R} \times \mathbf{V})$ force that causes the orbits of the planets about the sun to spiral about a circular orbit giving the appearance of an elliptical orbit tilted with respect to the equatorial plane of the sun with periods in agreement with Bode's Law. The vibrational mechanism causing the gravitational force decays over time giving rise to gravitational red shifting. Halton Arp's discovery of quasars bound to galaxies with significantly different red shifts is explained in terms of the younger quasar galaxy's neutral dipole vibrations having decayed for a shorter period of time than the older and larger associated galaxy. The decay of gravity also explains Tift's measured decay of the magnitude of red shifts over time, and the high velocity of stars in the spiral arms of galaxies. ...”

This was certainly one of the top 5 papers that I saw at the conference (to me)! It is a lovely combination of creative imagination and apparently beautiful math, although I still haven't done my homework and gone through the details and that math. After a first quick pass through, I'm not comfortable with some of the developments, notably the treatment of integrands, statements that may have support in previous papers but weren't specifically supported in the current paper, and many other details (eg $r_{\hat{}}$ confusion – one too many r's in gravitational law compared to Newton, Bode's law, quantized redshift, decay of gravity, etc). Still, the concept and math is worth a look, as is earlier worked by Andre Assis in 1992 & 1995 that is referenced by the author.

The basis for the paper is a companion paper in the Proceedings by the same author:

- Charles E. Lucas Jr., Maryland www.commonssciencescience.org “The universal electrodynamic force” pp387-396

While many others in the Electric Universe field have suggested that gravitation may be an electromagnetic phenomenon, this is the best detailed and conceptual analysis that I've seen. If correct and unique, this is Nobel-prize material! There are many phenomena discussed by Lucas in relation to his new gravitational theory:

- Corroborating circumstantial evidence - Cosmic Microwave Background Radiation and frame of reference in the universe
- Non-radial gravitational term & Corroborating circumstantial evidence for spiraling orbits (of planets & moons of our solar system)
- Origin of Hubble's Law
- Significance of quantized red shifts
- MOND versus Dark Matter

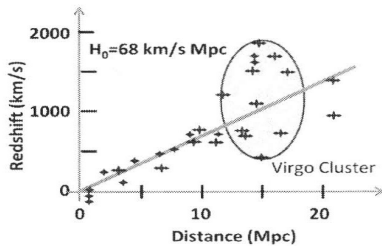


Fig. 20. Hubble's Law red shifts proportional to distance or brightness [22]

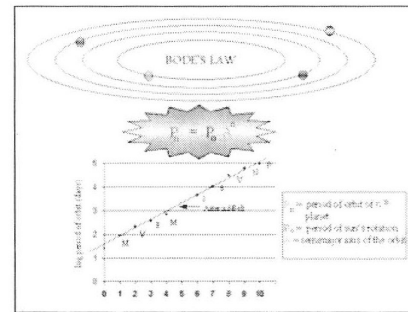


Fig. 21. Planetary Data supporting modern Bode's Law [23]

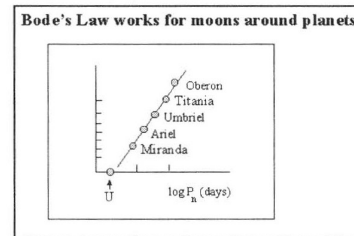


Fig. 22. Uranus Moon Data Supporting Bode's Law [23]

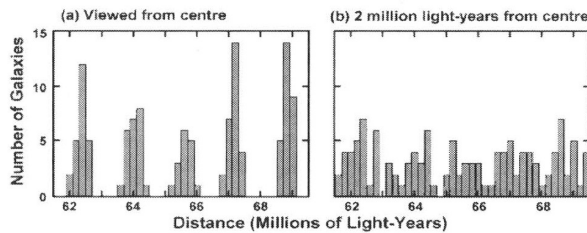


Fig. 24. Effect of Observing Red Shifts Away from the Center of the Universe [24]

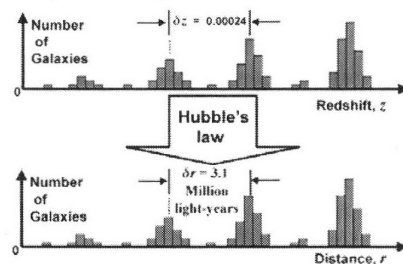


Fig. 23. Tiftt's Quantized Red Shifts Support Bode's Law on Universal Scale (Idealized format without background) [24]

Given the work of Immanuel Velikovsky and others who have suggested that large orbital changes (Venus, Earth, Mars) have occurred in recent history (circa 1500 & 700 BC), it would be interesting to know if this leads to different dynamics from conventional orbital stability theories for how fast a “steady state” might be reached after perturbations. The Bode result is particularly interesting in this context, as is the “almost elliptical” orbital comment.

I asked a question at the end of the presentation as to whether electric (Birkeland) currents of the

Electric Universe theory could “regenerate” gravitational forces. I can't remember the exact answer, but Lucas didn't throw it out entirely, nor did he seem too warm to the idea.

Clearly, I need to spend a lot of time going through the details of this paper, as well as it's companion paper by Lucas in the same proceedings.

2z. History

As with EU presentations in general, I did not spend much time in the EU presentations on History, even though that has been a major project of my father and I since roughly 2004-05.

I did, however, have a very long evening discussion with ?name? of Winnipeg, who is looking to “cut” 1000 years out of history over the last 2000-3000 years (quite a challenge!).

3. Structural Physics

There were many great structural physics presentations and discussions at the conference, but as I'm out of time for now, I'll skip these. Maybe some day in the distant future, or in a conference report another year, I'll do a writeup. It's both fascinating and a powerful means for teaching/ visualizing! Conceptually, as well, the ideas are powerful.



3a. Charles Donald Briddell Maryland www.fieldstructure.org “The neutron: Modeled as a field structure” pp75-84

From his abstract:

“... *Field Structure Theory (FST) postulates a plenum composed of chiral loops that when brought together properly weave loops of action together to form waves of energy. To tell the story of the neutron, is is necessary to show how a neutron arises from wave energy in the plenum. FST shows how waves arise, interact to form particles, atoms, molecules and etc. Form and structure in nature can be shown to be fractal hierarchical iterations that follow simple rules of loop association to produce the platforms of reality, i.e. wave, particle, atom, molecule etc. With chiral loops of action that interact to become chiral energy loops, that interact to become bound stand-alone three-dimensional particles, the neutron is seen as the seventh iteration of this fractal hierarchy... ...*”

[110716 Howell – insert scanned images here later...]

The presentation is fascination, but starting from zero I would have to spend much more time to become familiar with the concept, tools, and implications. I will say that it is a fresh perspective for me, and one that provides a nice visual framework for the models. Even if the concepts were wrong, they may be powerful tools for remembering details (mnemonics), or for pedagogy.

One strange thing – how might this description of the neutron tie in with Oliver Manuel's “neutron repulsion” results?

3b. Dirac (?Bohr?) versus Lucas model of atom - Hydrogen spectral signature

- Bill Lucas (same author is shown above) son 1995 “Combinatorial geometry packing of electrons in the structure of the atom” USA science fair project winner (no paper in NPA proceedings)

This was a visual display of two booths during the Saturday morning display/ demo session. There isn't a paper in the NPA proceedings for the booth display, nor did I see handout papers to take home (or I certainly would have!). For sure my memory will fail on much of this.

As I understood the story, Lucas' son used a new model of the atom quite different from the ?Dirac? (or Bohr?) model, which apparently violates some law or another of physics. This new model conceives of the electrons circling in toruses (tori?) (maybe the nucleus too?) in various positions depending on the atom. From that step, it is conceptually easy to visualize the potential electron behaviours, and in fact a later project did this with a mechanical slinky!

Anyways, the torus arrangement led to the concept of FRACTIONAL quantum numbers for the electrons. A graph of the hydrogen emission spectrum (200 to ~1400 ?units of length?) was shown for which many more than the standard H₂ spectrum model can explain, and at positions as predicted.

The project was presented in USA science fairs, and made it to the national finals. At hat point, top scientists were recruited to judge all of the projects, and the Lucas project was rejected as it violated known physics. However, NASA had seen the results and their veractiy, and had the decision overturned on the basis that the judges were right in that the project violated known physics / chemistry, but that the known concepts were wrong or inferior.

I doubt that I remember the story properly, and I have no idea if the concept actually is solid, but it is creative, intriguing, and worth my time follow up some time in the future when I have time. See also the comment “my hydrogen won't burn” below.

4. Gravity

While there was a large “gravity contingent” at the conference, I didn't spend much time in these sessions, not out of dis-interest, but because I could only be in one place at one time. SR & GR for me needed to be resolved first (i.e. rejected, albeit retained in a conceptual environment of “multiple conflicting hypothesis”), as that saves a huge amount of my time and complication for a later look at gravity. My rejection of SR & GR last summer / fall as concepts that I consider NOT to be credible, was solidly re-confirmed by the NPA/EU conference papers and discussions!

4a. Gravity *DOESN'T* exist as a separate force?

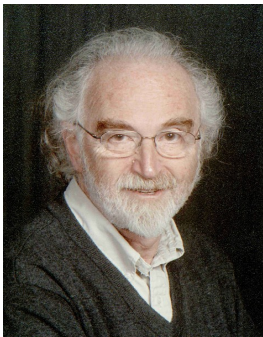
See my quick summary of Bill Lucas' papers in the EU section above for a beautiful basis of gravity in EU theory! This is one of the 5 best papers of the conference that I saw.

4b. Gravitational Lensing, Shapiro Effect

See my quick summary of Dowdye's papers in the SR & GR section above for yet more rejections of GR as a basis for gravity (or, in the case of the Shapiro Effect, a mis-accreditation to GR).

5. Random Items

5a. E-Z Water



Gerald H. Pollack, Uof Washington, Seattle

<http://depts.washington.edu/bio/people/core/pollack.html> “The secret life of water” (no paper in NPA proceedings)

Pollack gave a fascinating presentation on Saturday morning during the open session of demonstrations, audio-visuals, and displays. The following material is therefore from memory and without handwritten notes, so there will be substantial errors. He has published many papers and books, for example here are three of those listed by www.amazon.com :

- Gerald H. Pollack 24Nov10 “Water and the Cell”
- Gerald H. Pollack and Wei-Chun Chin 19Nov10 “Phase Transitions in Cell Biology”
- Gerald H. Pollack 10Mar01 “Cells, Gels and the Engines of Life”

The core idea is the presence of a “pseudo-crystalline” (my words) layer of water at interfaces that extends far further into the water than previously thought (order of millimeters or perhaps almost a centimeter at most – depending on surface, water, and impurities). Russian scientists had measured and suggested this decades ago, but were ridiculed by Western scientists. The water is NOT in the form of packed dipoles, but instead is arranged in the form of hexagonal “honeycomb” sheets. The “pseudo-crystalline” layer near the surface/interface is called the “E-Z zone” by Pollack (?Extended Zone?), and has a net negative charge. There is a positive, H⁺ - based charge in the bulk water.

There were too many details to recount here, so I'll just list a few points:

- “lattice-like defects” can occur in the honeycomb layers, which tend to propagate outwards to the interface with the bulk solution (or “sideways” along the E-Z). “Memory-like” defects have been seen, such that when emptying a beaker then filling with fresh water, the new water can “remember” prior conditions. A comment was made about DNA, but I can't remember the

details.

- Nafion is a particularly good surface for generating thick E-Z.
- Our traditional understanding of surface tension may depend to a large degree on the behaviour of the E-Z, as opposed to merely one or two atoms this layer at an interface. Examples shown were a US dime “floating” on water, and an intriguing “water drop-tube” suspended between two beakers.
- The surface-to-bulk potential have been used as a battery that generates nano-ampere currents in a beaker. Of course, these diminish with time as the E-Z zone depletes or (it is speculated) H⁺ builds up at the E-Z / bulk interface. However, if left alone, the E-Z zone rebuilds, which was very perplexing to Pollack's team, as the energy had to come from somewhere. They now feel that it is recharged by light (UV preferentially?). Sounds like an alternative solar energy source – as opposed to photo-voltaic or solar concentrators (or plants and biofuels, or, ultimately winds and hydro etc, etc, etc!).
- Colloids are a phenomenon that has been studied in association with E-Z zones. If I remember correctly, “colloid crystals” may be stabilised somewhat by the E-Z.
- The implications for biology (membranes, intra-cellular etc) are big. I missed a lot of the detail here (I was mainly watching a demonstration of an electromagnetic machine).
- I did ask what the implications for toxicology might be (especially with the colloid connection). I don't remember specifics, but my impression is that they have thought of this, but their team hasn't done a huge amount of work on it.
- There was a great deal of interest from the crowd (even though the conference was dominated by physics enthusiasts – but it seems that quite a few “outsiders” also attended because of Pollack's reputation.

5b. *My hydrogen doesn't burn*

Based on discussions with Bill Lucas regarding the Lucas model of the atom (item 3a above), a fascinating comment emerged – that a catalyst has been found to generate power from water, generating as a byproduct hydrogen with the 0.5 quantum level electron. A company in the North-East USA is apparently commercializing this now. Strangely, this hydrogen won't burn in ordinary air.

This sounds like an potential way to “render safe” hydrogen in storage or in transport, much like metal-hydride beds, which require 20% of their energy value to be input just to get the hydrogen out. This greatly increases the safety of hydrogen systems! But when I asked, it sounds like the 0.5 quantum level hydrogen would require far too much energy to bring back to its n-1 level (I don't know if this means a wash in terms of hydrogen as an energy carrier?). If something like a 5/6 or 7/8 quantum level could be made sometime with a specialised catalyst, then perhaps there would be some potential (maybe carry around the corresponding oxygen in 1/8 quantity compared to the hydrogen carrying capacity, and burn the 7/8 H₂ with the 7/8 O₂, releasing sufficient energy to convert then burn the remaining 7/8 H₂? This is a pure guess on my part).

Ofcourse, just as with radioactive forms of common biologically-important elements (Ca and its substitutes for example), the biological / toxicological properties of “strange” hydrogen and oxygen might be very interesting. Who, knows, there might be huge benefits as well, perhaps like some kind of free-radical protection or whatever...

5c. Earthquake Predictions

- Thomas Valone, Maryland, Editor www.integrityresearchinstitute.org 2005 “Earthquake Prediction Technology”

This was NOT a paper of the NPA conference, but I purchased it at the Saturday morning demonstration/ display session. I was disappointed to find that many papers in the 1/4” thick stapled collection were only the cover pages of the articles. Still, there were several complete news-like articles, and it did provide the “flavour” and “authors” of some of the work on using electro-magnetic (radio etc) signals for predicting earthquakes hours or days ahead of time. As this has been of some interest to me and selected authors that I follow, from that point of view it was of some use.

A key point for me is that the thinking is what I call “ARMA-based” (Auto-Regressive Moving Average, as a bit of a mis-use of the term). By that I mean that only a few time-steps ahead are forecast, as opposed to using much longer term models linked to general “drivers or correlates” that is the approach of interest to me. For example, Ivanka Charvatova’s very strong classification of “volcanic-free” 50 year periods is both very strong, and relatively predictable on the centuries scale, with the potential to be predictable on very long time-scales (eg 2,400 years or more). I am currently looking at “Length Of Day” (LOD) modeling, with some hope for the same kind of predictability, although that is far from clear at present.

My interests have also included climate, history, pandemics, heart attacks, and financial markets.

5d. Earth, Water, Air, Fire

As I understand it, three speakers mentioned that the traditional 4 ELEMENTS of the ancients, were really the four PHASES of **matter**. **Now why** didn't I recognize this apparent translation error/ partial translation long ago? I've always been turned off by this story, but now I find it fascinating. From the phases, leaping into elements isn't so bad... Some noted that Fire should be listed first, as plasma is the predominant phase in the universe.

endsection

Part C – Howell's randomly selected thoughts on Science, Scientists, and Thinking

As you will note from my comments in this paper and elsewhere on my website (see www.billhowell.ca/??? for more details), my biggest interest isn't actually the areas of science or models themselves, but in two strangely related areas:

1. Computational Intelligence, with a main emphasis on neural networks and secondary focus on Evolutionary Computation -
2. the catastrophic failure of [rational, logical, scientific] thinking by essentially all scientists, and the rather extreme behavioural problems of the “disciples” of scientific consensus, including the leading institutes and scientists.

Below, my “traditional thinking” is in black font, whereas NPA-related comments are in *blue italics font*.

I have provided this section, which is not directly related to the conference, to provide a more clear idea of how I have long felt about the second point, that is the major failures of scientists and scientific communities, in and around which I have spent most of my career. While this is off-topic in terms of the conference content, the NPA conference very much brought this theme alive for me, as in many respects the NPA functioning is a far better reflection of “how science should be done and how scientists should think and behave” than either the academic or government research environments. This is from the perspective that people actually listen to those these disagree with, and don't have to impose a standard way to think. Or perhaps this is more applicable to pre- and post-scientific thinking, with the added consequence that many “scientific efforts” are not scientific at all as they violate the preconditions necessary for truly scientific thinking. This starts with a willingness to listen to apparently crazy ideas, and to play with the same. This implies a certain humbleness, and a respect for the thoughts of others, and a healthy ability to agree to disagree, and yet still listen and learn.

Note that I do NOT necessarily believe any of the concepts that follow, but I do think that they are worthy of listening to, even if many do eventually turn out to be wrong. Given the great diversity of ideas expressed at the NPA, perhaps most ideas must fail, as must perhaps most of the conventional thinking they challenge. But, I feel that:

In sports: “... *It's not whether you win or lose, it's how you play the game. ...*”

In conceptual development, scientists should borrow from the athletes:

“... *It's not whether you are right or wrong, it's how you play the game. ...*”

The NPA papers and conference are an excellent way of contrasting and challenging our “Scientific beliefs”, and therefore may be essential to help us (me) to evolve to much better concepts over time. Maybe a great benefit of the NPA/EU thoughts is that they introduce doubt in what we SHOULD BELIEVE, or whether we should believe!

Don't take my judgments of scientists too harshly – ultimately this is the basis for a UNIVERSAL LAW of human thinking and behaviour, using scientists as a well-documented, supposedly well-trained class of [rational, logical, scientific] thinkers.

The thinking and behaviours of scientists

As I've stated for some time, with respect to high-profile science issues in politically-correct areas of interest to the greater public, the thinking of essentially all scientists constitutes strictly following a consensus belief system somewhere on the continuum of [fashion, cult, religion]. Examples of long-duration, extreme failures of consensus scientific thinking are:

- What I call the "... Kyoto Premise – the presumption that anthropogenic greenhouse gases [have had, are having, will have] a catastrophic impact on the climate, ergo the environment, ergo mankind. ..." This is really what has been sold as a scientific religion to the public. But the public has caught on to the scientific blarney much faster than the scientists!
- *Special Relativity (SR) - while this isn't my area of expertise, I've spent considerable time going through the original experiments up to the 1937-38 Ives Stillwell Atomic Clock experiment, and see NO convincing proof of SR.*
- *Redshift – distance and velocity conclusions - far too much confidence is placed in far too many derived quantities, and far too much blindness is shown towards results (like Halton Arp's) that challenge this religion of scientists.*
- *Big Bang and black holes – a lot is being made of concepts that are NOT being presented as having very little substantiation!*
- Health issues – initial studies of salt & diet,
- Anyways, I'll need to compose a list of concepts in all areas of science, throughout the ages!

It's a good idea for many creative ideas to pop up all the time, and inspire work until they may prove fruitless. The problem is that scientists seem to flock to ideas that become a progression of [fashions, cults, religions]. Worse, the level of back-stabbing against scientists that challenge of orthodoxy is possibly no different than in the time of Copernicus and Galileo – only we don't do the torture thing (career and personal life destruction, death threats, yes). *Examples of scientists / thinkers attacked over decades by "religious, scientific, zealots" and discussed at the NPA include Immanuel Velikovsky, Halton Arp, and Hans Alfvén, but I'm likely forgetting many, and may be unaware of problems faced by the likes of Wallace Thornhill and David Talbot. Important too are the "back-stabbers" - Stephen Jay Gould, Carl Sagan, and Isaac Asimov as well documented for the case of Velikovsky.* Stephen Jay Gould behaved in a similar fashion with respect to Richard Hernstein & Charles Murray's "The Bell Curve". Right or wrong isn't the issue – it's how you play the game, and in these cases the back-stabbing falls far short of decent human behaviour, let alone professional or "the theory of how science should work, although judging by many examples it may correspond to how most scientists actually behave when their beliefs are challenged.

As individuals or small groups (10-20 scientists) their thinking and actions can be described as:

"... locally of limited observation, and tightly constrained [rational, logical, scientific] thinking ..."

AND

"... generally dysfunctional and/or delinquent and/or dishonest and/or hypocritical and/or vindictive;

with at least ONE of the characteristics being present to a very strong degree. It is common enough for many of the traits to co-occur in strong form. Even a court of law cannot reliably distinguish between

the above cases, and in any case its a waste of time losing sleep over which conditions apply. To an unbiased external observer it hardly matters. My own gut feel is that the foundation of all is likely dysfunctional thinking, which leads to scientists making strong statements empower by the other behaviours. The fumbling analysis of interferometer experiments by the world's "top scientists and institutions" for 100 years is just one of many, many examples of this. It's alright to make mistakes, but not to found scientific religions.

On the other hand, for large groups consisting of a "sufficient diversity" of expertises, drop the "or" conjunction:

"... It is the rule rather than the exception that the thinking is dysfunctional and delinquent and dishonest and hypocritical and vindictive ..."

In the extreme, perhaps one can say tongue-in-cheek that:

"... In the end, breakthroughs and the truth can only come from a lunatic. But there are 6 billion lunatics on earth, each with several thousands of lunatic ideas. Finding the right lunatic idea of the right lunatic may take far longer than solving the problem yourself. ..."

These comments are perhaps more blunt than most, but across history we see many leading thinkers (I do NOT consider myself to be a leading thinker) stating similar observations. Rather than being peculiar to scientists, I suggest that this is characteristic of homo-sapiens, in effect a Universal property of people (myself included) and for good reasons as mentioned below. For now, assuming the above to have some validity, it begs the question of:

"... How do scientists (and all of us) actually think? They are certainly NOT thinking in the manner that they claim [logical, rational, scientific], other than according to a "conceptual locality" (explained elsewhere), and that may actually be a good thing. ..."

The limits and constraints of [rational, logical, scientific] thinking

"... Other philosophies of thinking may be more appropriate for complex systems (living systems are far beyond even that...). For complex systems, the preconditions necessary for logic simply are not there:

- *all key variables are known*
 - *all key variables can be measured accurately*
 - *all key independent variables can be controlled accurately, or where that is not possible, the available data covers all relevant state space, and there is a substitute means ascertaining causality (this is RARE!)*
 - *you know what you are looking for, and that is the right thing to be looking for*
 - *the mathematics is tractable.*
- ...".*

"... For complex (non-living) systems, logic is an emergent property, not an absolute, as is nearly the

case with “classical science” that conforms to the preconditions listed above. ...”

False frameworks of logic are a plague of science and most other areas of human endeavor. The above comment does NOT include living or human systems, which are vastly more complicated in that they anticipate and react to the environment and “agents” in it. I don't think our math is up to it (cheating theory, game theory are a start, Nash's equilibrium in economics etc).

Pre- and post-scientific approaches to thinking

I'll skip this because of time, but it would include items such as:

- pattern matching & associative memory
- sensory and cortical processing – EXTREMELY powerful
- Computational Intelligence techniques/ machine learning – including evolutionary computation, neural networks, fuzzy systems etc etc
- randomness, and perhaps chaotic systems etc

Small-world universal function approximators

It's my gut feeling that scientists are not sufficiently aware of the tendency of complex models to become what I call “Small-world universal function approximators” - that is, the models have sufficient expressive power to perform all or most data fitting within a problem domain. This distinguishes them from “universal function approximators” which can fit data of a general sort.

In other words, in spite of taking care to build a complex model from “true” modules, the ensemble may NOT be physically meaningful even if it fits the data perfectly. Over-confidence with Climate “General Circulation Models” is a good example.

In the case of NPA themes, I think that the General Relativity Theory (GR) fits this well in the current context. I, as I feel is likely, Special Relativity (SR) is a turkey, then what becomes of GR? Does it collapse to a Hamilton-Jacobi formulation of Newtonian mechanics/ Maxwell's Electro-magnetics? My guess is that a great deal of good modeling has been done with GR over the last century. In other words, scientists have done well with a basically incorrect model, mostly due to its nature as a “small-world universal function approximator”.

The future of science – may lie with amateurs and independent research organisations (often retired scientists)?

More appropriately, the role of amateurs may be of far greater importance to science in the future, and may be THE MAJOR means of identifying failures of consensus scientific thinking and new scientific breakthroughs.

The NPA conference is a great example of how high-level scientists and serious amateurs can work together. Tolerance for weak mathematics, and less-than-professional

The NPA and the Electric Universe

This is the first year that the EU group has been wholesale invited to the NPA conference, and from my viewpoint this was a fantastic fit!

enddoc